NEVADO DEL RUIZ VOLCANO, COLOMBIA, I

STANLEY N. WILLIAMS (Editor)

Contents

Nevado del Ruiz volcano, Colombia: an example of the state-of-the-art of volcanology four years after the tragic November 13, 1985 eruption
S.N. Williams (Baton Rouge, La., U.S.A.) 1

TOMS measurement of the sulfur dioxide emitted during the 1985 Nevado del Ruiz eruptions
A.J. Krueger, L.S. Walter and C.C. Schnetzler (Greenbelt, Md., U.S.A.) and S.D. Doiron (Lanham, Md., U.S.A.) 7

Perturbation and melting of snow and ice by the 13 November 1985 eruption of Nevado del Ruiz, Colombia, and consequent mobilization, flow and deposition and lahars
T.C. Pierson and R.J. Janda (Vancouver, Wash., U.S.A.), J.-C. Thouret (Grenoble, France) and C.A. Borrero (Manizales, Colombia) 17

Pyroclastic deposits of the November 13, 1985 eruption of Nevado del Ruiz volcano, Colombia
M.L. Calvache (Manizales, Colombia) 67

Magma mixing and petrogenesis of the 13 November 1985 eruptive products at Nevado del Ruiz (Colombia)
A. Gourgaud (Clermont-Ferrand, France) and J.-C. Thouret (Grenoble, France) 79

Water contents, temperatures and diversity of the magmas of the catastrophic eruption of Nevado del Ruiz, Colombia, November 13, 1985
W.G. Melson (Washington, D.C., U.S.A.), J.F. Allan (College Station, Texas, U.S.A.), D.R. Jerez (Washington, D.C., U.S.A.), J. Nelen (Washington, D.C., U.S.A.) M.L. Calvache (Manizales, Colombia), S.N. Williams (Baton Rouge, La., U.S.A.) J. Fournelle (Washington, D.C., U.S.A.) and M. Perfit (Gainesville, Fla., U.S.A.) 97

Pre-eruption compositional gradients and mixing of andesite and dacite magma erupted from Nevado del Ruiz Volcano, Colombia in 1985
H. Sigurdsson and S. Carey (Kingson, R.I., U.S.A.), J.M. Palais (Durham, N.H., U.S.A.) and J. Devine (Providence, R.I., U.S.A.) 127

Evaluation of magmatic processes for the products of the Nevado del Ruiz Volcano, Colombia from geochemical and petrological data
N. Vatin-Pérignon, P. Goemans and R.A. Oliver (Grenoble, France) and E.P. Parra (Manizales, Colombia) 153

Effects of the November 13, 1985 eruption on the snow pack and ice cap of Nevado del Ruiz Volcano, Colombia
J.-C. Thouret (Grenoble, France) 177

Eruption and mass-wasting-induced processes during the late Holocene destructive phase of Nevado del Ruiz volcano, Colombia
J.-C. Thouret (Grenoble, France), R. Salinas and A. Murcia (Medellín, Colombia) 203

Quaternary eruptive history of Nevado del Ruiz (Colombia)
J.-C. Thouret (Grenoble, France), J.M. Cantagrel (Clermont-Ferrand, France), R. Salinas and A. Murcia (Medellín, France) 225

Casabianca Formation: a Colombian example of volcanism-induced aggradation in a fluvial basin
C.A. Borrero P. and J.L. Naranjo H. (Caldas, Colombia) 253

Deformation monitoring at Nevado del Ruiz, Colombia – October 1985–March 1988
M.G. Banks (Vancouver, Wash., U.S.A.), C. Carvajal and H. Mora (Manizales, Colombia) and E. Tryggvason (Reykjavik, Iceland) 269

Analysis of seismic patterns observed at Nevado del Ruiz volcano, Colombia during August–September 1985
B. Martinelli (Zürich, Switzerland) 297

Seismicity associated with the reactivation of Nevado del Ruiz, Colombia, July 1985–December 1986
A.H. Nieto E. (Manizales, Colombia), B. Brandsdottir (Reykjavik) and F. Muñoz C. (Manizales, Colombia) 315

Analysis of swarms of high-frequency seismic events at Nevado del Ruiz volcano, Colombia (January 1986–August 1987): development of a procedure
F. Muñoz C. (Manizales, Colombia), A. Nieto E. and H.-J. Meyer (Cali, Colombia) 327

Seismicity following the 1985 eruption of Nevado del Ruiz, Colombia
J.E. Zollweg (Seattle, Wash., U.S.A) 355

Remanent magnetization of andesitic and dacitic pumice from the 1985 eruption of Nevado del Ruiz (Colombia) reversed due to self-reversal
M. Haag and F. Heller (Zürich, Switzerland), J.C. Carracedo and V. Soler (Tenerife, Spain) 369

Contents: Nevado del Ruiz Volcano, Colombia, II (companion volume) 379